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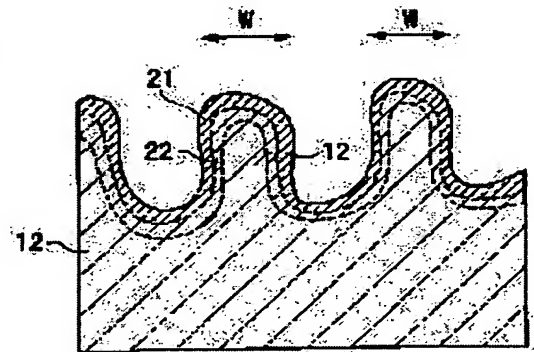
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## (54) BONE SUBSTITUTIVE MATERIAL HAVING EXCELLENT BIOAFFINITY

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a bone substitutive material which is uniformly formed with a layer exhibiting good bioaffinity in the rugged portions of a base material by a simple method and exhibits a sufficient shearing strength.

**SOLUTION:** This bone substitutive material is formed with ruggedness on the surface of the base material made of titanium or titanium alloy which is a bonding surface to the vital tissue. The root diameter  $W$  of the projecting parts of the ruggedness is  $\geq 40 \mu\text{m}$  in average. An alkali titanate layer 21 having  $\geq 35 \text{ atm.}\%$  in oxygen concentration is formed across a depth of 0.5 to 2  $\mu\text{m}$  in the ruggedness. The layer 21 has the good bioaffinity. The core portions of the projecting parts are titanium or titanium alloy portions 12 and, therefore, thin film the strength of the projecting parts is sufficiently assured and, then, the possibility that the projecting parts are dislodged is extremely little in spite of the exertion of external force.



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